

WHAT IS CLAIMED IS:

1. A program for a question-answering apparatus having a communication equipment for receiving an input of a question document, a storage for storing a plurality of reply examples and a CPU for performing a reply composition process of replying to the question document by using a reply example selected from the plurality of reply examples, the program executing steps of:

extracting a plurality of important areas from said input question document;

combining said plurality of important areas to one or a plurality of important parts in accordance with a reply example candidate likelihood value of said plurality of reply examples obtained for each of said plurality of important areas; and

obtaining a reply example candidate corresponding to said important part by using the plurality of stored reply examples.

2. The program according to claim 1, wherein:

said storage stores reply example keyword frequency information representative of an occurrence frequency of each keyword in a question document corresponding to each of said reply examples; and

said important area extracting step comprises steps of:

dividing said input question document into a plurality of areas;

obtaining a likelihood value of a question content corresponding to each of said plurality of stored reply examples for each of said plurality of areas, by using said reply example keyword frequency information; and

extracting said important area in accordance with a relation between one of the likelihood value obtained for each of said areas and a predetermined threshold value.

3. The program according to claim 1 wherein:
said storage stores important part keyword frequency information of a keyword in an important part of said input question document and unimportant part keyword frequency information of a keyword in an unimportant part of said input question document; and

said important area extracting step comprises steps of:

dividing said input question document into a plurality of areas;

calculating an importance degree of each of said plurality of areas by using said important part keyword frequency information and said unimportant part keyword frequency information; and

extracting as said important area an area having said calculated importance degree larger than a predetermined threshold value.

4. The program according to claim 1 wherein:
said important area extracting step outputs a

first extraction result using a first threshold value and a second extraction result using a second threshold value smaller than said first threshold value;

said important part combining step and said reply example candidate obtaining step for said important part are performed for said first and second extraction results;

similarity is judged between a reply example candidate obtained for said first extraction result and a reply example candidate obtained for said second extraction result; and

the program further executes a distribution step of determining, as an output destination of a process result of said reply example candidate obtaining step for said important part, either a first reply composition terminal or a second reply composition terminal respectively combined via a communication line to said question-answering apparatus, in accordance with said similarity.

5. The program according to claim 1, further comprising:

a step of calculating a distribution destination evaluation value of a reply example candidate corresponding to said important part and comparing said distribution destination evaluation value with a predetermined threshold value; and

a distribution step of determining, as an output destination of a process result of said reply

example candidate obtaining step for said important part, one of a plurality of reply composition terminals respectively combined via a communication line to said question-answering apparatus, in accordance with a comparison result.

6. The program according to claim 1, further comprising steps of:

transmitting said question document, important part information identifying areas of said combined important parts and reply example candidate information obtained as a process result of said reply example candidate obtaining step for said important part, to a reply composition terminal combined via a communication line to said question-answering apparatus and having a display and an input unit;

displaying, on the display of said reply composition terminal, said question document with the areas of said important parts identified by said important part information in a first emphatic manner and a reply document containing reply example candidates identified by reply example candidate information;

receiving a selection input of one important part in said displayed document by using the input unit; and

displaying said one important part selected by said selection input in a second emphatic manner or displaying a reply example candidate corresponding to

said one important part in said reply document in a third emphatic manner.

7. The program according to claim 6 wherein:
 said transmitting step transmits a plurality of reply example candidates corresponding to said respective important part in a higher order of the reply example candidate likelihood value; and

 in response to the selection input of selecting said one important part, the program executes a step of displaying a plurality of reply example candidates corresponding to said one important part in an area different from said reply document.

8. The program according to claim 7 further comprising steps of:

 receiving at the input unit said selection input of selecting one of said plurality of reply example candidates; and

 in response to said reply example candidate selection input, displaying said selected reply example candidate in said reply document.

9. The program according to claim 6 wherein a predetermined character string in said displayed important parts is emphatically displayed.

10. The program according to claim 6 each of said important parts is emphatically displayed in a different manner.

11. The program according to claim 6 wherein ID information of each of said important parts is

displayed together with each of said important parts.

12. A question-answering system having a question-answering apparatus and a reply composition terminal combined via a network to said question-answering apparatus, wherein:

said question-answering apparatus comprises a communication equipment for receiving an input of a question document, a storage for storing a plurality of reply examples and a processor unit for performing a reply composition process of replying to the question document by using a reply example selected from the plurality of reply examples;

said reply composition terminal comprises a communication apparatus for receiving a result of said reply composition process, a display for displaying information contained in said reply composition process result and an input unit for receiving an input for said display information; and

the processor unit of said question-answering apparatus extracts a plurality of important areas from said input question document, combines said plurality of important areas to one or a plurality of important parts in accordance with the reply example candidate likelihood value of said plurality of reply examples obtained for each of said plurality of important areas, and obtains a reply example candidate corresponding to said important part by using the plurality of stored reply examples to output said reply composition process

result.

13. The question-answering system according to claim 12, wherein:

said storage of said question-answering apparatus stores reply example keyword frequency information representative of an occurrence frequency of each keyword in a question document corresponding to each of said reply examples; and

said important area extraction is performed by:

dividing said input question document into a plurality of areas;

obtaining a likelihood value of a question content corresponding to each of said plurality of stored reply examples for each of said plurality of areas, by using said reply example keyword frequency information; and

extracting said important area in accordance with a relation between one of the likelihood value obtained for each of said areas and a predetermined threshold value.

14. The question-answering system according to claim 12 wherein:

said storage stores important part keyword frequency information of a keyword in an important part of said input question document and unimportant part keyword frequency information of a keyword in an unimportant part of said input question document; and

said important area extraction is performed
by:

dividing said input question document into a
plurality of areas;

calculating an importance degree of each of
said plurality of areas by using said important part
keyword frequency information or said unimportant part
keyword frequency information; and

extracting as said important area an area
having said calculated importance degree larger than a
predetermined threshold value.

15. The question-answering system according to
claim 12 wherein:

said important area extraction outputs a
first extraction result using a first threshold value
and a second extraction result using a second threshold
value smaller than said first threshold value;

said important part combining process and
said reply example candidate obtaining process for said
important part are performed for said first and second
extraction results;

similarity is judged between a reply example
candidate obtained for said first extraction result and
a reply example candidate obtained for said second
extraction result; and

a distribution destination of a process
result of said reply example candidate obtaining
process for said important part is determined either as

a first reply composition terminal or as a second reply composition terminal respectively combined via a communication line to said question-answering apparatus, in accordance with said similarity.

16. The question-answering system according to claim 12, wherein:

a plurality type of reply composition terminals are provided;

the processor unit of said question-answering apparatus calculates a distribution destination evaluation value of a reply example candidate corresponding to said important part and compares said distribution destination evaluation value with a predetermined threshold value; and

an output destination of a process result of said reply example candidate obtaining process for said important part is determined as one of a plurality of reply composition terminals respectively combined via a communication line to said question-answering apparatus, in accordance with a comparison result.

17. The question-answering system according to claim 12, wherein:

said question-answering apparatus transmits said question document, important part information identifying areas of said combined important parts and reply example candidate information obtained as a result of said reply example candidate obtaining process for said important part, to said reply

composition terminal; and

said reply composition terminal displays on the display, said question document with the areas of said important parts identified by said important part information in a first emphatic manner and a reply document containing reply example candidates identified by reply example candidate information.

18. The question-answering system according to claim 17, wherein:

said reply composition terminal receives a selection input of one important part in said displayed document by using the input unit; and

the display displays said one important part selected by said selection input in a second emphatic manner or displays a reply example candidate corresponding to said one important part in said reply document in a third emphatic manner.

19. The question-answering system according to claim 18 wherein:

said question-answering apparatus transmits a plurality of reply example candidates corresponding to said respective important part in a higher order of the reply example candidate likelihood value; and

said display displays a plurality of reply example candidates corresponding to said one important part in an area different from said reply document, in response to the selection input of selecting said one important part, and

in response to said selection input of selecting one of said plurality of reply example candidates via said input unit, displays said selected reply example candidate in said reply document by replacing said reply example candidate displayed with said reply document with said selected reply example candidate.

20. The question-answering system according to claim 17 wherein information of each of said important parts is displayed together with each of said important parts.